DOCUMENT RESUME

ED 482 455 TM 035 382

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TITLE	A Validation of the Emotional Intelligence Inventory.
PUB DATE	2003-11-00
NOTE	12p.; Paper presented at the Annual Meeting of the Mid-South Educational Research Association (Biloxii, MS, November 5-7, 2003).
PUB TYPE	Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	College Students; *Concurrent Validity; *Emotional Intelligence; Higher Education; *Measures (Individuals)

ABSTRACT

This study examined the concurrent validity of the Emotional Intelligence Inventory (M. Tapia, 2001) and the Emotional Intelligence Scale (N. Schutte and others, 1998). The responses to the inventories of 234 college students, 84 males and 250 females, were analyzed. Correlations between the total score on the two scales were significant. Correlations between each subscale of the Emotional Intelligence Inventory and the Emotional Intelligence Scale were significant. Correlations were calculated across gender, and all correlations were significant. These results indicate that the Emotional Intelligence Inventory and the Emotional Intelligence Scale have concurrent validity across gender and by gender. (Contains 2 tables and 11 references.) (Author/SLD)

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ED 482 455

A VALIDATION OF THE EMOTIONAL INTELLIGENCE INVENTORY

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Paper presented at the Annual Meeting of the
Mid-South Educational Research Association,
Biloxi, Mississippi
November 5-7, 2003

TM035382

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ABSTRACT

This study examined the concurrent validity of the Emotional Intelligence Inventory and the Emotional Intelligence Scale. The responses to the inventories of 234 college students, 84 males and 150 females, were analyzed. Correlations between the total score on the Emotional Intelligence Inventory and Emotional Intelligence were significant. Correlations between each subscale of the Emotional Intelligence Inventory and the Emotional Intelligence Scale were significant. Correlations were calculated across gender, and all correlations were significant. These results indicated that the Emotional Intelligence Inventory and the Emotional Intelligence scale have concurrent validity across gender and by gender.

A Validation of the Emotional Intelligence Inventory

Introduction

Emotional intelligence is "the ability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth" (Mayer & Salovey, 1997). Emotional intelligence was conceptualized by Thorndike (1920), elevated in work on tacit knowledge (Sternberg, 1985; 1996) and interpersonal or social intelligence (Gardner, 1993; 1995), promulgated as a construct by Salovey and Mayer (1990), and popularized by (Goleman, 1995) to culminate in Mayer and Salovey (1997) model to include thinking about feelings. According to Mayer and Salovey (1997), intelligence and emotion are combined because the ideation that emotion provokes makes thinking more intelligent, or thinking intelligently about emotions. From this point of view, a person with these abilities is considered to be well adjusted and emotionally skilled; the lack of these abilities renders a person socially and emotionally handicapped.

Mayer (1999) has expressed concern about popular versions stretching the definition of emotional intelligence to a list of personality characteristics and distinguishes between the popular and the scientific psychology of emotional intelligence. The Emotional Intelligence Inventory (Tapia, 2001) and the The Emotional Intelligence Scale (Schutte, Malouff, Hall, Haggerty, Cooper, Golden, & Dornheim, 1998) were based on the scientific model of emotional intelligence. In order to effectively use the theory of emotional intelligence in research or for a wide range of practical applications, it is necessary to have an instrument that

will accurately and efficiently assess the construct. The purpose of this study was to validate the Emotional Intelligence Inventory (EII) with the EIS. Concurrent validity requires that the criterion test (EIS) must have been validated, which has been done (Schutte, et al, 1998), and that the instruments measure the same construct, which in this case is emotional intelligence.

Method

Subjects

The subjects were 234 undergraduate students enrolled at a private, liberal arts college. Eighty-four subjects were male and 150 female. Approximately 95% of the sample was Caucasian and about 3% African-American. The ages of the subjects ranged from 18 to 29, with a mean of 20.50 and standard deviation of 1.95. All subjects were volunteers.

Materials

The Emotional Intelligence Inventory Revised (EII) is a 41-item scale. The items were developed according to the model of emotional intelligence developed by Salovey and Mayer (1990) and Mayer and Salovey (1997). The items were constructed using a Likert-format scale of five alternatives for the responses with anchors of 1: never like me, 2: occasionally like me, 3: sometimes like me, 4: frequently like me, and 5: always like me. The score was the sum of ratings.

Exploratory factor analysis of the EII using a sample of high school students resulted in four factors identified as Empathy, Utilization of Feelings, Handling Relationships, and Self-control. Empathy consisted of 12 items. The Utilization of Feelings scale consisted of 11 items. The Handling Relationship scale consisted of 9 items. The Self-control scale also consisted of 9 items. Table 1 shows anchor items by factor. Alpha coefficients for the scores

on these scales were found to be .74, .70, .75, and .67 respectively. Internal consistency for the 41 items was .80 (Tapia 2001).

Table 1 Emotional Intelligence Inventory anchor items by factors

Items by Factor
Empathy
I sympathize with others when they have problems.
I go out of my way to help someone in need.
Utilization of Feelings
I keep myself focused on my goals.
I understand why I react the way I do in situations.
Handling Relationships
I think about why I do not like a person.
I think about how I can improve my relationships with those I love.
Self-control
Traffic jams cause me to lose control.
Having car trouble causes me to feel stressful.

The Emotional Intelligence Scale (EIS) is a 33-item scale. The items were developed according to the model of emotional intelligence by Salovey and Mayer (1990). The items were constructed using a Likert-format scale of five alternatives for the responses with anchors of 1: strongly disagree it is like me, 2: somewhat disagree this is like me, 3: neither agree nor disagree this is like me, 4: somewhat agree this is like me, and 5: strongly agree this is like me. Table 2 shows sample items. An internal consistency analysis showed a Chronbach's alpha of .90 for the 33-item scale (Schutte, et al, 1998).

A Student's Demographic Questionnaire was also used. This questionnaire consisted of three questions. The purpose of these questions was for identifying gender, age, and ethnic background.

Table 2 Emotional Intelligence Scale sample items

1. I know when to speak about my personal problems to others
2. When I am faced with obstacles, I remember times I faced similar obstacles and overcame them.
3. I expect I will do well on most things I try.
4. Other people find it easy to confide in me.
5. I have control over my emotions.

Procedure

The EII and the EIS were administered to participants during their classes. Directions were provided in written form and students recorded their responses on computer scannable answer sheets.

Results

Tapia (2001) found a four-factor solution from an exploratory factor analysis with maximum likelihood method of extraction and a varimax, orthogonal, rotation. The names for the factors reported in Tapia (2001) were Empathy, Utilization of Feelings, Handling Relationships, and Self-Control. Based on that factor analysis, the 41 items were classified into four categories each of which was represented by a factor. A composite score each category was calculated by adding up the numbers of the scales responses to the items belonging to that category. Cronbach's α coefficients were calculated for the scores on the

scales and were found to be .76 for Empathy, .64 for Utilization of Feelings, .78 for Handling Relationships, and .58 for Self-Control. Cronbach's α coefficients for the scores on all 41 items of the EII and the scores on all the 33 items of the EIS were .81 and .91 respectively.

The data were analyzed to calculate Pearson product moment correlations between the scores on the total scale and on the subscales of the EII and the total scores on the EII. Correlation analyses were performed using SPSS.

A Pearson product moment correlation was calculated between the scores on the total scale of the EII and the scores on the EIS for the 228 subjects who had both scores. A positive correlation, $r = +0.62$ ($r^2 = .38$) was found between the scores on the EII and the scores on the EIS. This relationship was found to be significant at the .01 level of significance. The correlation coefficient, when interpreted as an index of the magnitude of the effect, indicates a large effect size.

Pearson product moment correlations were also calculated between the scores on each one of the subscales of the EII and the scores on the EIS. A positive correlation $r = +0.51$ ($r^2 = .26$) was found between the scores on the Empathy factor of the EII and the scores on the EIS. This relationship was found to be significant at the .01 level of significance and with large effect size. A positive correlation $r = +0.45$ ($r^2 = .20$)) was found between the scores on the Utilization of Feelings factor and the scores on the EII. This relationship was found to be significant at the .01 level of significance and with large effect size. A positive correlation $r = .52$ ($r^2 = .27$) was found between the scores on the Handling Relationships factor and the scores on the EIS. This relationship was found to be significant at the .01 level of significance and with large effect size. A positive correlation $r = .14$ ($r^2 = .02$) was found between the

scores on the Self-Control factor and the scores on the EIS. This relationship was found to be significant at the .05 level of significance and with small effect size.

Pearson product moment correlations were also calculated across gender. A Pearson product moment correlation was calculated between the scores on the total scale of the EII and the scores on the EIS for the 149 females who had both scores. A positive correlation, $r = +0.69$ ($r^2 = .47$) was found between the scores on the EII and the scores on the EIS. This relationship was found to be significant at the .01 level of significance and with a large effect size. A positive correlation $r = +0.50$ ($r^2 = .25$) was found between the female scores on the Empathy factor of the EII and the scores of the EIS. This relationship was found to be significant at the .01 level of significance and with large effect size. A positive correlation $r = +0.58$ ($r^2 = .34$)) was found between the scores on the Utilization of Feelings factor and the scores on the EII. This relationship was found to be significant at the .01 level of significance and with large effect size. A positive correlation $r = .56$ ($r^2 = .31$) was found between the scores on the Handling Relationships factor and the scores on the EIS. This relationship was found to be significant at the .01 level of significance and with large effect size. A positive correlation $r = .24$ ($r^2 = .06$) was found between the scores on the Self-Control factor and the scores of the EIS. This relationship was found to be significant at the .01 level of significance and with large effect size.

A Pearson product moment correlation was calculated between the scores on the total scale of the EII and the scores on the EIS for the 79 males who had both scores. A positive correlation, $r = +0.50$ ($r^2 = .25$) was found between the scores on the EII and the scores on the EIS. This relationship was found to be significant at the .01 level of significance and with large effect size. A positive correlation $r = +0.39$ ($r^2 = .15$) was found between the female

scores on the Empathy factor of the EII and the scores on the EIS. This relationship was found to be significant at the .01 level of significance and with large effect size. A positive correlation r = +0.32 (r^2 = .10)) was found between the scores on the Utilization of Feelings factor and the scores on the EII. This relationship was found to be significant at the .01 level of significance and with medium effect size. A positive correlation r = .43 (r^2 = .19) was found between the scores on the Handling Relationships factor and the scores of the EIS. This relationship was found to be significant at the .01 level of significance and with large effect size. The correlation between the scores on the Self-Control factor and the score on the EIS was found to be not significantly different from 0 ($p < .22$). r^2 = .10 indicating a small effect size.

Conclusions

The present investigation examined the validity of the revised Emotional Intelligence Inventory (EII). The total score and the subscales of the EII correlate with the EIS, indicating that the EII can be used instead of the EIS. An advantage of the EII is the ability to focus on the components of the emotional intelligence construct.

As expected, females scored higher than males on emotional intelligence, but especially on empathy and handling relationships. Although males and females differ significantly in emotional intelligence or in some constructs in the EII, high scores in the EII correspond to high scores on the EIS. The advantages of the EII may lie in the existence of the subscales. According to Salovey and Mayer (1997), emotional intelligence can improve, implying that it can be taught. In that emotional intelligence is different from academic intelligence that does not appreciably change significantly with time or training, the EII may be useful in research and training programs because it yields more than a total score. By

comparison, a total score on the EIS may only yield and average of low and high sub-scores. Knowing the subscale scores may allow a person to focus on the precise area of emotional intelligence he or she wishes to improve.

In order for emotional intelligence to be more than a philosophical concept or a popular trend, it must be a measurable construct and have measurable components. Undoubtedly biology, social learning and cultural influences contribute to gender roles. Valid instruments with useful subscales are critical in research to investigate gender differences. Since social adjustment and life success are partly determined by the ability to recognize and control emotions, measuring and comparing emotional constructs is an essential step in advancing the research. There may be wide differences among women and men in different social and cultural contexts that result from the effects of emotions.

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Title: A Validation of the Emotional Intelligence Inventory

Author(s): Martha Tapia & George E. Marsh II

Corporate Source: MSERA Annual Meeting Biloxi, MS 2003

Publication Date: 2003

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